In the Specification

Please amend the paragraph beginning at page 9, line 17 to the following:

--Figure 3 graphs data arrival rates 301 for consecutive time intervals <u>302</u> where each vector X has N elements.--

Please amend the paragraph beginning at page 9, line 6 to the following:

--The clock 110 sets time intervals $\sum_{n} \delta(t - nT)$, at a clock rate of $\frac{1}{T}$.

During each time interval, the amount of data (X_n) 121 that is received at QoS management block is measured by in the data counter 120. The measured data 121 can be bits, bytes, packets, cells, etc. as shown in ~~Figure 7~~ <u>Figure 4</u> for a thirty second MPEG-4 video trace 401 where the x-axis 402 is the index of frames transmitted and the y-axis 400 is the frame sizes in bits. The amount of data received in a given fixed length time interval essentially gives the instantaneous data rate during the interval. The most recent M values of the measured data rate are buffered in the shift register 130 as an integer vector $\underline{X}_k = [X(n-M+1) \ X(n-M+2) \ .... X(n)]$ 131 and also the minimum non-zero sample 132 of the integer vector 131 is determined.--

Please amend the paragraph beginning at page 13, line 4 to the following:

--As shown in Figure 5, energy 501 in each scale 510-513 is found by applying Equation 7 to the wavelet transform unit vector **W** 600. The x-axis 502 is in units of radians. Scale 513 reveals the highest frequency detail within the original traffic data 503. The detail is expressed by four coefficients. The detail in scale index 512 is assigned to two coefficients. The first two element 511 and 510 in vector **W** 600 stands are assigned one element of coarser scales.--

Please amend the paragraph beginning at page 8, line 18 to the following:

--The RAM 800 can also receive optional feedback parameters, e.g., buffer statistics 801, from the buffer 105 and a minimum non-zero value X_{DC} 132 from 130. The output 809 from the RAM 800 drives a dynamic bandwidth controller (DBC) 900, which in turn, decides whether to start a renegotiation cycle with the network 102 based on the new prediction information and the comparison of previous and current variance and mean of the energy distribution in the sub-bands and sets a renegotiation flag 901. The DBC starts a renegotiation cycle with a network according to values of the renegotiation flag, e.g. renegotiate if the flag is one. If no renegotiation is decided, The DBC waits for the next prediction from the RAM 800. The DBC is also responsible for forwarding the buffered traffic onto the network 102 at the current negotiated data rates.--

Please amend the paragraph beginning at page 19, line 5 to the following:

--Figure 10 compares the queuing ~~performances,~~ performance 1035 of the wavelet-energy method according to the invention with the queuing performances 1031-1034 of four traditonal approaches where the x-axis 1037 is the index of a time slot, and the y-axis 1036 is the average queue size.--

Please amend the paragraph beginning at page 2, line 12 to the following:

--For VBR data, dynamic resource allocation is crucial, especially for traffic that is bursty in time scales from milliseconds to seconds or even minutes. This burstiness phenomenon at different time scales is called self-similarity. see M. W. Garrett, W. Willinger, *"Analysis, Modeling, and Generation of Self-similar VBR Video Traffic,"* ACM SIGCOMM, London, 1994. They found a relation between energy distribution of a signal in frequency domain and the level of traffic self-similarity. However, any analytical study that ~~makes use the~~ makes use of the link between self-similarity level and energy distribution to dynamically allocate network resources has not been done yet. It is known that increasing level of self-similarity of a traffic trace increases the required network resources to prevent QoS degradation, such as delay and packet loss rate. Therefore, a correct modeling and prediction of self-similar traffic and the quantification of the network resources to allocate in each resource renegotiation is non-trivial.--

Please amend the paragraph beginning at page 5, line 22 to the following:

--A ~~predetermine~~ predetermined number of consecutive data rates are grouped into overlapping vectors. A discrete wavelet transform is applied to each overlapping vector to determine frequency bands for each vector, and the frequency bands of each vector are analyzed to determine an associated energy of the data rate.--

Please amend the paragraph beginning at page 8, line 12 to the following:

--The output of the data counter 120 is connected to a shift register 130 of size M, for example eight. The shift register 130 is connected to a discrete wavelet transform unit (DWT) 200, e.g., a Haar wavelet filter bank. Specifically, ~~We use~~ we use a Haar-2 basis. An analyzer 140 processes the output of the DWT 200. The output of the analyzer is connected to resource allocation mechanism (RAM) 800.--

Please amend the paragraph beginning at page 19, line 12 to the following:

--Figure 12 compares the trade between average utilization 1201 and average queue size 1202 for the four modified wavelet-energy RAM methods where the x-axis ~~1103~~ 1203 is the index of a time slot, and the y-axis to the left 1200 is average utilization and y-axis to the right is average queue size.--